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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/662,852	09/15/2003	Homer W. Fogle JR.	TRW(AP) 6308	2133
26294	7590	05/03/2006	EXAMINER	
TAROLLI, SUNDHEIM, COVELL & TUMMINO L.L.P.			BROWN, DREW J	
1300 EAST NINTH STREET, SUITE 1700			ART UNIT	
CLEVEVLAND, OH 44114			PAPER NUMBER	
			3616	
DATE MAILED: 05/03/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/662,852	FOGLE ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Drew J. Brown	3616	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 2/27/06 (amendment).
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21, 25 and 27-32 is/are pending in the application.
- 4a) Of the above claim(s) 12-19 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 20 and 21 is/are allowed.
- 6) ☒ Claim(s) 1-8, 25, 27-29, 31 and 32 is/are rejected.
- 7) ☒ Claim(s) 9-11 and 30 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>11/30/05</u> .  | 6) <input type="checkbox"/> Other: _____                                    |

### DETAILED ACTION

This Office Action is in response to the amendment filed on 2/27/06. Claims 22-24 and 26 have been canceled; claims 1, 20, and 25 have been amended; claims 27-32 have been added; and claims 12-19 were withdrawn from further consideration in the reply filed on 10/17/05.

#### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 25 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In line 22 of claim 25, "a shank" renders the claim indefinite because it is unclear whether the shank that is part of the body is different from the shank that is part of the actuatable fastener, as recited in line 18.

#### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 2, 4-6, 8, 27, and 31 are rejected under 35 U.S.C. 102(b) as being anticipated by Moore et al. (U.S. Pat. No. 4,986,708).

With respect to claims 1 and 27, Moore et al. discloses an actuatable fastener comprising a body (14) including a head (portion of the body to the right of the left edge of wall 12 in Figure 1) and a shank (portion of the body to the left of the left edge of wall 12 in Figure 1). The body includes an interior chamber (20) that is partially defined by a side wall extending from the head into the shank, and an end wall (22) is positioned in the shank.

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A member (24) is disposed in the chamber, and an initiator (36) is actuatable to produce combustion products in the chamber that act on the member to move the member in a first direction in the chamber to strike the end wall, creating a fracture in the shank, which separated at least a portion of the shank from a remainder of the shank (Figure 2; column 3, lines 30-40). The combustion products move the member beyond the fracture at least a predetermined distance to move the at least a portion of the shank at least the predetermined distance from the remainder of the shank (Figure 2; column 3, lines 47-49), wherein the member does not contact the end wall of the shank before the initiator is actuated (Figure 1), the head and shank are formed of one piece but not two pieces attached together, and the interior chamber entirely surrounds the member (Figure 1).

With respect to claim 2, the shank includes a first shank portion (portion of shank to the left of surface 50) opposite the head and a second shank portion (portion of shank to the right of surface 50) between the first shank portion and the head, where the first shank portion is separated from the second shank portion when the shank is ruptured (Figure 2).

With respect to claim 4, the member has an interference fit with the side wall that forms a seal to block the combustion products from escaping the chamber (column 3, lines 52-54).

With respect to claim 5, the combustion products comprise at least one of solids and luminous ignition flashes (column 3, lines 7-10).

With respect to claim 6, the initiator is at least partially supported in the head (Figure 1).

With respect to claim 8, the shank has a first portion connectable with a first part (48) and a second portion connectable with a second part (12), the first part being movable relative to the second part, where the first portion of the shank is separated from the second portion of the shank when the member causes the fracture in the shank. The member moves the first portion of the shank and the first part at least the predetermined distance from the second portion of the shank and the second part (Figure 2).

With respect to claim 31, the chamber has a cylindrical configuration and the member has a cylindrical side wall positioned in the chamber (Figure 1) with a first end portion (32) proximate the initiator and an opposite second end portion (28) proximate the end wall of the chamber, where the second end portion has a terminal end comprising an annular rim (outer edge of end 28 that does not contact the side wall of chamber 20).

5. Claims 25 and 28 are rejected under 35 U.S.C. 102(b) as being anticipated by Elqadah et al. (U.S. Pat. No. 6,746,044 B2).

Elqadah et al. discloses an inflatable vehicle occupant protection device for helping to protect a vehicle occupant, where the inflatable vehicle occupant protection device has a deflated condition and an inflated condition. An inflation fluid source (18) is actuatable to provide inflation fluid to inflate the protection device from the deflated condition to the inflated condition. A housing (16) helps to direct inflation fluid from the inflation fluid source toward the protection device upon actuation of the inflation fluid source.

A vent opening (32) is in the housing for venting inflation fluid from the housing, and a vent member is movable a predetermined distance from a closed position blocking venting of inflation fluid through the vent opening to an open position, enabling venting of inflation fluid through the vent opening.

An actuatable fastener (Figure 4) has a shank with a first portion (122a) connectable with the vent member (30) and a second portion (120a) connectable with the housing (16a) to hold the vent member in the closed position. The actuatable fastener further comprises a body including a head (80a) and a shank, where the body includes an interior chamber (136a) partially defined by a side wall extending from the head into the shank and an end wall (bottom edge of wall 122a in Figure 4) positioned in the shank. A member (202) is disposed in the chamber, and an initiator is actuatable to produce combustion products in the chamber that act on the member to move the member in a first direction in the chamber to strike the end wall, where the member striking the end wall creates a fracture in the shank separating the first portion of the shank from the second portion of the shank and release the vent member for movement toward the open position (column 7, lines 5-17). The combustion products move the member beyond the fracture at least a predetermined distance to move the first portion of the shank at least the predetermined distance from the second portion to propel the vent member from the closed position to the open position (dashed lines in Figure 1).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Moore et al. in view of Takahashi (U.S. Pat. No. 3,449,996).

Moore et al. discloses the claimed invention as discussed above but does not disclose that an annular groove separates the first and second portions of the shank, where the fracture occurs at the annular groove.

Takahashi, however, does disclose that the shank (17) includes an annular groove (26) separating the first shank portion from the second shank portion, where the fracture occurs at the annular groove (Figure 4).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Moore et al. in view of the teachings of Takahashi to have an annular groove separate the two shank portions to ensure that the fastener fractures at the desired location.

8. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Moore et al.

Moore et al. discloses the claimed invention as discussed above and that the body comprises a metal housing (column 3, lines 59-61) that forms a portion of the head (portion of the body to the right of the right edge of wall 12 in Figure 1), but does not disclose that a plastic portion is molded onto the housing, where the plastic portion forms the shank and a portion of the head.

However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have a plastic portion (portion of the body to the left of the right edge of wall 12 in Figure 1) molded onto the housing, since it has been held to be within the general

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skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

9. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Damian et al. (U.S. Pat. No. 6,749,217 B2) in view of Elqadah et al.

Damian et al. discloses an inflatable vehicle occupant protection device for helping to protect a vehicle occupant, where the inflatable vehicle occupant protection device has a deflated condition and an inflated condition. An inflation fluid source (40) is actuatable to provide inflation fluid to inflate the protection device from the deflated condition to the inflated condition. A housing (92) helps to direct inflation fluid from the inflation fluid source toward the protection device upon actuation of the inflation fluid source.

A tether (35) restrains deployment of the inflatable occupant protection device (Figure 2 and 2A), where the tether has a first end (top end of tether 35 connected to tether 30 in Figure 2A) fixed to the inflatable vehicle occupant protection device (via tether 30) for movement with the inflatable vehicle occupant protection device and a second end (bottom end of tether 35 connected to housing 92) fixed to the housing. A first fastener (80) has a first portion that is connectable with the tether at a location between the first and second end and a second portion connectable with the housing to restrict movement of the inflatable vehicle occupant protection device with respect to the location (Figure 2).

Although the fastener (80) of Damian et al. releases the tether for movement with the inflatable vehicle occupant protection device to restrict movement of the inflatable occupant protection device with respect to the second end, Damian et al. does not disclose that the fastener is an actuatable fastener that comprises a shank that fractures.

Elqadah et al., however, does disclose an actuatable fastener with a shank that fractures as discussed above. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Damian et al. in view of the teachings of Elqadah et al. to use an actuatable fastener that fractures to release the tether in order to control the fracturing precisely so the tether is released at the desired moment to provide optimum protection for the occupant involved in the collision.

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10. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Webber et al. (U.S. Pat. No. 6,409,213 B2) in view of Elqadah et al.

Webber et al. discloses an inflatable vehicle occupant protection device for helping to protect a vehicle occupant, where the inflatable vehicle occupant protection device has a deflated condition and an inflated condition. An inflation fluid source (204) is actuatable to provide inflation fluid to inflate the protection device from the deflated condition to the inflated condition. A housing (230) helps to direct inflation fluid from the inflation fluid source toward the protection device upon actuation of the inflation fluid source.

A vent opening (206) is in the housing for venting inflation fluid from the housing, and a vent member (210) having an aperture (212) is movable a predetermined distance from a closed position blocking venting of inflation fluid through the vent opening to an open position in which the aperture is in fluid communication with the vent opening to enable venting of inflation fluid through the vent opening.

Although Webber et al. discloses a fastener (250) having a shank with a first portion connectable with the vent member and a second portion connectable with the housing to hold the vent member in the closed position (Figure 5), where the fastener has means for propelling the vent member the predetermined distance from the closed position to the open position (Figure 6), Webber et al. does not disclose that the fastener is an actuatable fastener that fractures the shank and displaces the first portion the predetermined distance in order to release the vent member.

Elqadah et al., however, does disclose an actuatable fastener (Figure 4) that has a shank with a first portion (122a) connectable with the vent member (30) and a second portion (120a) connectable with the housing (16a) to hold the vent member in the closed position, where the shank is fracture as discussed above. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Webber et al. in view of the teachings of Elqadah et al. to use an actuatable fastener that fractures to propel the vent member in order to control the fracturing precisely so the vent member is propelled at the desired moment to provide optimum protection for the occupant involved in the collision.



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***Allowable Subject Matter***

11. Claims 9-11 and 30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
12. Claims 20 and 21 are allowed.

***Response to Arguments***

13. Applicant's arguments with respect to claims 1, 7, and 25 have been considered but are moot in view of the new ground(s) of rejection.

In regards to the argument on page 18 that Elqagah et al. does not disclose all of the features in claim 25, the Examiner responds that Figure 4 of Elqadah et al., rather than Figures 2 and 3 that were previously used, discloses all of the features in claim 25, specifically the member (202) that strikes the end wall to cause the fracture.

***Conclusion***

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Fischer et al. and Okamoto et al. disclose a similar actuatable fastener in communication with a tether.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Drew J. Brown whose telephone number is 571-272-1362. The examiner can normally be reached on Monday-Thursday from 8 a.m. to 4 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul N. Dickson can be reached on 571-272-6669. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Drew J. Brown  
Examiner  
Art Unit 3616

DJB  
4/28/06



**DAVID R. DUNN**  
**PRIMARY EXAMINER**